1   1.   A method of bounding latency of transmissions by stations on a shared access
2   medium comprising:
3   associating one of multiple priority levels with a transmission; and
4   controlling the amount of time the transmission occupies the shared access medium
5   based on the associated priority level.

1   2.   The method of claim 1, wherein controlling comprises:
2   maintaining a frame length limit for all but the highest of the multiple priority levels;
3   determining if the associated priority level is not the highest; and
4   if the associated priority level is not the highest, ensuring that the length of a frame to
5   be transmitted in the transmission does not exceed the frame length limit.

1   3.   The method of claim 1, wherein controlling comprises:
2   maintaining a frame length limit for all of the multiple priority levels; and
3   ensuring that the length of a frame to be transmitted in the transmission does not
4   exceed the frame length limit.

1   4.   The method of claim 1, wherein the transmission is a burst transmission of
2   frames and wherein controlling comprises:
3   providing the burst transmission with control of the medium at the associated priority
4   level.

1   5.   The method of claim 4, wherein providing comprises: providing in all but
2   the last of the frames in the burst transmission a contention control indicator for indicating
3   contention-free access and providing in all of the frames in the burst transmission the
4   associated priority level so that the burst transmission may be interrupted by another of the
5   stations having a pending frame with a higher priority level than the associated priority level.

1   6.   The method of claim 5, further comprising:
2   relinquishing control of the shared access medium when such pending frame is
3   detected between transmissions of the frames in the burst transmission.

1   7. The method of claim 6, further comprising:

2   resuming the burst transmission after successfully contending for access to the shared

3   access medium.

1   8.   The method of claim 5, wherein the frames of the burst transmission comprise

2   segments of a segmented MAC service data unit.

1   9.   A media access control unit for bounding latency of transmissions by stations

2   on a shared access medium comprising:

3   a transmit handler to associate one of multiple priority levels with a transmission and

4   to control the amount of time the transmission occupies the shared access medium based on

5   the associated priority level.

1   10.   The media access control unit of claim 9, wherein the transmit handler

2   maintains a frame length limit for all but the highest of the multiple priority levels and

3   ensures that the length of a frame to be transmitted in the transmission does not exceed the

4   frame length limit when the associated priority level is not the highest.

1   11.   The media access control unit of claim 9, wherein the transmit handler

2   maintains a frame length limit for all of the priority levels and ensures that the length of a

3   frame to be transmitted in the transmission does not exceed the frame length limit.

1   12.   The media access control unit of claim 9, wherein the transmission is a burst

2   transmission and the transmit handler comprises:

3   a segmentation unit for segmenting a MAC service data unit into segments for

4   transmission in frames on the shared access medium in the burst transmission; and

5   a frame transmit unit for providing segments in frames in the burst transmission at the

6   associated priority level.

1   13.   The medial access control unit of claim 12, wherein the frame transmit unit

2   provides a set contention control indicator for indicating contention-free access in all but the

3 last of the frames in the burst transmission and provides in all of the frames in the burst

4 transmission the associated priority level so that the burst transmission may be interrupted by

5 another of the stations having a pending frame with a higher priority level than the specified

6 ~~priority level.~~

1   14.   The media access control apparatus of claim 13, further comprising:

2   wherein the frame transmit unit relinquishes control of the shared access medium

3 when such pending frame is detected between transmissions of the frames in the burst

4 transmission.

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1   15.   The media access control apparatus of claim 14, further comprising:

2   wherein the frame transmit unit resumes the burst transmission after successfully

3 contending for access to the shared access medium.